

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Savannah

5102 LaRoche Avenue

Savannah, GA 31404

Tel: (912)354-7858

TestAmerica Job ID: 680-126349-1

Client Project/Site: Dumfries, VA Project

For:

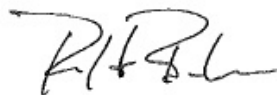
Sequoia Services, LLC

40 E. Main Street

Suite 1011

Newark, Delaware 19711

Attn: Chris Colangelo



Authorized for release by:

6/17/2016 11:31:01 AM

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Method Summary

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Method	Method Description	Protocol	Laboratory
200.8	Metals (ICP/MS)	EPA	TAL SAV
2540 D-2011	Total Suspended Solids (Dried at 103-105°C)	SM	TAL SAV

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater",

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

Sample Summary

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-126349-1	System AA002	Water	06/13/16 09:43	06/14/16 09:18
680-126349-2	System Influent 008	Water	06/13/16 09:53	06/14/16 09:18
680-126349-3	Effluent 012	Water	06/13/16 09:33	06/14/16 09:18
680-126349-4	MT 004	Water	06/13/16 10:03	06/14/16 09:18

Definitions/Glossary

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Qualifiers

Metals

Qualifier	Qualifier Description
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Job ID: 680-126349-1

Laboratory: TestAmerica Savannah

Narrative

Client: Sequoia Services, LLC

Project: Dumfries, VA Project

Report Number: 680-126349-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In the event of interference or analytes present at high concentrations, samples may be diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

RECEIPT

The samples were received on 06/14/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.6 C.

TOTAL METALS (ICPMS)

Samples System AA002 (680-126349-1), System Influent 008 (680-126349-2), Effluent 012 (680-126349-3) and MT 004 (680-126349-4) were analyzed for total metals (ICPMS) in accordance with EPA Method 200.8. The samples were prepared on 06/15/2016 and analyzed on 06/16/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL SUSPENDED SOLIDS

Samples System AA002 (680-126349-1), System Influent 008 (680-126349-2), Effluent 012 (680-126349-3) and MT 004 (680-126349-4) were analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 06/15/2016.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Client Sample Results

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Client Sample ID: System AA002

Lab Sample ID: 680-126349-1

Date Collected: 06/13/16 09:43

Matrix: Water

Date Received: 06/14/16 09:18

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.3		0.60		ug/L		06/15/16 15:37	06/16/16 15:29	1
Copper	3.5		1.0		ug/L		06/15/16 15:37	06/16/16 15:29	1
Lead	<0.50		0.50		ug/L		06/15/16 15:37	06/16/16 15:29	1
Nickel	3.0		1.0		ug/L		06/15/16 15:37	06/16/16 15:29	1
Selenium	3.8		0.50		ug/L		06/15/16 15:37	06/16/16 15:29	1
Thallium	0.45		0.20		ug/L		06/15/16 15:37	06/16/16 15:29	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.0		1.0		mg/L			06/15/16 16:00	1

Client Sample ID: System Influent 008

Lab Sample ID: 680-126349-2

Date Collected: 06/13/16 09:53

Matrix: Water

Date Received: 06/14/16 09:18

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		0.60		ug/L		06/15/16 15:37	06/16/16 15:54	1
Copper	1.0		1.0		ug/L		06/15/16 15:37	06/16/16 15:54	1
Lead	0.88		0.50		ug/L		06/15/16 15:37	06/16/16 15:54	1
Nickel	3.5		1.0		ug/L		06/15/16 15:37	06/16/16 15:54	1
Selenium	6.0		0.50		ug/L		06/15/16 15:37	06/16/16 15:54	1
Thallium	0.42		0.20		ug/L		06/15/16 15:37	06/16/16 15:54	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	2.2		1.0		mg/L			06/15/16 16:00	1

Client Sample ID: Effluent 012

Lab Sample ID: 680-126349-3

Date Collected: 06/13/16 09:33

Matrix: Water

Date Received: 06/14/16 09:18

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.3		0.60		ug/L		06/15/16 15:37	06/16/16 15:59	1
Copper	<1.0		1.0		ug/L		06/15/16 15:37	06/16/16 15:59	1
Lead	<0.50		0.50		ug/L		06/15/16 15:37	06/16/16 15:59	1
Nickel	1.7		1.0		ug/L		06/15/16 15:37	06/16/16 15:59	1
Selenium	3.6		0.50		ug/L		06/15/16 15:37	06/16/16 15:59	1
Thallium	0.77		0.20		ug/L		06/15/16 15:37	06/16/16 15:59	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.0		1.0		mg/L			06/15/16 16:00	1

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Client Sample Results

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Client Sample ID: MT 004

Lab Sample ID: 680-126349-4

Date Collected: 06/13/16 10:03

Matrix: Water

Date Received: 06/14/16 09:18

Method: 200.8 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1100		0.60		ug/L		06/15/16 15:37	06/16/16 16:04	1
Copper	1.6		1.0		ug/L		06/15/16 15:37	06/16/16 16:04	1
Lead	<0.50		0.50		ug/L		06/15/16 15:37	06/16/16 16:04	1
Nickel	4.1		1.0		ug/L		06/15/16 15:37	06/16/16 16:04	1
Selenium	0.79		0.50		ug/L		06/15/16 15:37	06/16/16 16:04	1
Thallium	<0.20		0.20		ug/L		06/15/16 15:37	06/16/16 16:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	14		2.0		mg/L			06/15/16 16:00	1

QC Sample Results

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Method: 200.8 - Metals (ICP/MS)

Lab Sample ID: MB 680-437526/1-A

Matrix: Water

Analysis Batch: 437769

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 437526

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.60		0.60		ug/L		06/15/16 15:37	06/16/16 15:19	1
Copper	<1.0		1.0		ug/L		06/15/16 15:37	06/16/16 15:19	1
Lead	<0.50		0.50		ug/L		06/15/16 15:37	06/16/16 15:19	1
Nickel	<1.0		1.0		ug/L		06/15/16 15:37	06/16/16 15:19	1
Selenium	<0.50		0.50		ug/L		06/15/16 15:37	06/16/16 15:19	1
Thallium	<0.20		0.20		ug/L		06/15/16 15:37	06/16/16 15:19	1

Lab Sample ID: LCS 680-437526/2-A

Matrix: Water

Analysis Batch: 437769

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 437526

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	97.5		ug/L		98	85 - 115
Copper	100	100		ug/L		100	85 - 115
Lead	500	495		ug/L		99	85 - 115
Nickel	100	101		ug/L		101	85 - 115
Selenium	100	94.4		ug/L		94	85 - 115
Thallium	40.0	41.8		ug/L		104	85 - 115

Lab Sample ID: 680-126349-1 MS

Matrix: Water

Analysis Batch: 437769

Client Sample ID: System AA002

Prep Type: Total Recoverable

Prep Batch: 437526

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.3		100	102		ug/L		100	70 - 130
Copper	3.5		100	95.1		ug/L		92	70 - 130
Lead	<0.50		500	468		ug/L		94	70 - 130
Nickel	3.0		100	94.3		ug/L		91	70 - 130
Selenium	3.8		100	102	E	ug/L		98	70 - 130
Thallium	0.45		40.0	37.4	E	ug/L		92	70 - 130

Lab Sample ID: 680-126349-1 MSD

Matrix: Water

Analysis Batch: 437769

Client Sample ID: System AA002

Prep Type: Total Recoverable

Prep Batch: 437526

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.3		100	103		ug/L		101	70 - 130	1	20
Copper	3.5		100	96.5		ug/L		93	70 - 130	1	20
Lead	<0.50		500	473		ug/L		95	70 - 130	1	20
Nickel	3.0		100	96.2		ug/L		93	70 - 130	2	20
Selenium	3.8		100	103	E	ug/L		100	70 - 130	2	20
Thallium	0.45		40.0	37.7	E	ug/L		93	70 - 130	1	20

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QC Sample Results

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Method: 2540 D-2011 - Total Suspended Solids (Dried at 103-105°C)

Lab Sample ID: MB 680-437529/1

Matrix: Water

Analysis Batch: 437529

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	<1.0		1.0		mg/L			06/15/16 16:00	1

Lab Sample ID: LCS 680-437529/2

Matrix: Water

Analysis Batch: 437529

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	20.0	23.0		mg/L		115	80 - 120

Lab Sample ID: LCSD 680-437529/3

Matrix: Water

Analysis Batch: 437529

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Suspended Solids	20.0	19.0		mg/L		95	80 - 120	19	25

Lab Sample ID: 680-126349-4 DU

Matrix: Water

Analysis Batch: 437529

Client Sample ID: MT 004

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	14		13.6		mg/L		1	5

TestAmerica Savannah

QC Association Summary

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Metals

Prep Batch: 437526

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-126349-1	System AA002	Total Recoverable	Water	200.8	
680-126349-1 MS	System AA002	Total Recoverable	Water	200.8	
680-126349-1 MSD	System AA002	Total Recoverable	Water	200.8	
680-126349-2	System Influent 008	Total Recoverable	Water	200.8	
680-126349-3	Effluent 012	Total Recoverable	Water	200.8	
680-126349-4	MT 004	Total Recoverable	Water	200.8	
LCS 680-437526/2-A	Lab Control Sample	Total Recoverable	Water	200.8	
MB 680-437526/1-A	Method Blank	Total Recoverable	Water	200.8	

Analysis Batch: 437769

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-126349-1	System AA002	Total Recoverable	Water	200.8	437526
680-126349-1 MS	System AA002	Total Recoverable	Water	200.8	437526
680-126349-1 MSD	System AA002	Total Recoverable	Water	200.8	437526
680-126349-2	System Influent 008	Total Recoverable	Water	200.8	437526
680-126349-3	Effluent 012	Total Recoverable	Water	200.8	437526
680-126349-4	MT 004	Total Recoverable	Water	200.8	437526
LCS 680-437526/2-A	Lab Control Sample	Total Recoverable	Water	200.8	437526
MB 680-437526/1-A	Method Blank	Total Recoverable	Water	200.8	437526

General Chemistry

Analysis Batch: 437529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-126349-1	System AA002	Total/NA	Water	2540 D-2011	
680-126349-2	System Influent 008	Total/NA	Water	2540 D-2011	
680-126349-3	Effluent 012	Total/NA	Water	2540 D-2011	
680-126349-4	MT 004	Total/NA	Water	2540 D-2011	
680-126349-4 DU	MT 004	Total/NA	Water	2540 D-2011	
LCS 680-437529/2	Lab Control Sample	Total/NA	Water	2540 D-2011	
LCSD 680-437529/3	Lab Control Sample Dup	Total/NA	Water	2540 D-2011	
MB 680-437529/1	Method Blank	Total/NA	Water	2540 D-2011	

Lab Chronicle

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Client Sample ID: System AA002

Date Collected: 06/13/16 09:43

Date Received: 06/14/16 09:18

Lab Sample ID: 680-126349-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			50 mL	50 mL	437526	06/15/16 15:37	AJR	TAL SAV
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	437769	06/16/16 15:29	BJB	TAL SAV
Instrument ID: ICPMSC										
Total/NA	Analysis	2540 D-2011		1	1000 mL	1000 mL	437529	06/15/16 16:00	LAF	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: System Influent 008

Date Collected: 06/13/16 09:53

Date Received: 06/14/16 09:18

Lab Sample ID: 680-126349-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			50 mL	50 mL	437526	06/15/16 15:37	AJR	TAL SAV
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	437769	06/16/16 15:54	BJB	TAL SAV
Instrument ID: ICPMSC										
Total/NA	Analysis	2540 D-2011		1	1000 mL	1000 mL	437529	06/15/16 16:00	LAF	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: Effluent 012

Date Collected: 06/13/16 09:33

Date Received: 06/14/16 09:18

Lab Sample ID: 680-126349-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			50 mL	50 mL	437526	06/15/16 15:37	AJR	TAL SAV
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	437769	06/16/16 15:59	BJB	TAL SAV
Instrument ID: ICPMSC										
Total/NA	Analysis	2540 D-2011		1	1000 mL	1000 mL	437529	06/15/16 16:00	LAF	TAL SAV
Instrument ID: NOEQUIP										

Client Sample ID: MT 004

Date Collected: 06/13/16 10:03

Date Received: 06/14/16 09:18

Lab Sample ID: 680-126349-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.8			50 mL	50 mL	437526	06/15/16 15:37	AJR	TAL SAV
Total Recoverable	Analysis	200.8		1	50 mL	50 mL	437769	06/16/16 16:04	BJB	TAL SAV
Instrument ID: ICPMSC										
Total/NA	Analysis	2540 D-2011		1	500 mL	1000 mL	437529	06/15/16 16:00	LAF	TAL SAV
Instrument ID: NOEQUIP										

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

TestAmerica Savannah

Login Sample Receipt Checklist

Client: Sequoia Services, LLC

Job Number: 680-126349-1

Login Number: 126349

List Source: TestAmerica Savannah

List Number: 1

Creator: White, Menica R

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	N/A	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Certification Summary

Client: Sequoia Services, LLC
Project/Site: Dumfries, VA Project

TestAmerica Job ID: 680-126349-1

Laboratory: TestAmerica Savannah

The certifications listed below are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Virginia	NELAP	3	460161	06-14-16 *

* Certification renewal pending - certification considered valid.

TestAmerica Savannah